REMARKS

In the Office Action of November 16, 1998, claim 8 was objected to as not in compliance with Rule 121 regarding the bracketed feature. This has been corrected in the above amendments.

Dependent claims 7 and 17 were also rejected under Section 112 as omitting essential structural cooperative relationships of certain elements of the claims. These claims have been amended by specifying the relationship between the "two layers" and the first, second, third and fourth layers of dependent claims 7 and 17. Accordingly, it is believed that this overcomes the rejections under Section 112.

Applicants appreciate the allowance of claims 9-10, 19-22, 31-32 and 38-39 and the indication that clams 35-37 and 41-42 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. In this regard, claims 35, 36 and 37 have been written in independent form pursuant to the above amendments. Thus, they are believed to be allowable and such action is respectfully requested.

Claims 40 and 43-47 were rejected under Section 102(b) as anticipated by Austin Patent No. 5,147,125 ("Austin '125") and the remaining claims have been rejected under Section 103 as unpatentable over the Austin '125 patent either individually or in view of the Dickey Patent No. 5,372,874.

Pursuant to the above amendments, independent claims 43 and 47 have been amended to distinguish from the Austin reference both individually as well as in combination with other references. It is submitted that these amendments as well as the other clarifying amendments discussed above place the claims in condition for allowance or present the claims in better form

for consideration on appeal. In any event, it is submitted that these amendments have been made in response to the rejection in the Office Action of November 16, 1998 which had not been presented earlier. It is believed that this provides a showing of good and sufficient reasons why such amendments are necessary and were not submitted earlier. Accordingly, entry of all of the amendments is respectfully requested.

In the Office Action of November 16, 1998, the Examiner has relied on Austin '125 as the primary reference. This patent had been part of the record, but had not been previously applied in the manner set forth in the latest Office Action. In general, Austin '125 relates to a multi-layer, antireflection coating using zinc oxide to provide ultraviolet blocking. Accordingly, the use of zinc oxide in the coating of Austin '125 is critical and is used for a very specific purpose, namely, to provide ultraviolet or UV blocking in glass substrates.

The fact that Austin '125 is limited to glass substrates is clear from its disclosure. Specifically, all examples in Austin '125 are for application of the coating to a glass substrate. There is absolutely no disclosure whatsoever that the invention of Austin would work with plastic substrates. In fact, plastic substrates are distinguished in Austin '125 as being unsatisfactory. See column 2, lines 47-53 where the reference states that all plastics and resins possess a basic disadvantage in that they are relatively soft and will deteriorate under repeated cleaning and thus must be protected by placing them in assemblies laminated with glass or by providing them with hard overcoatings. Further, the performance of the coating of the preferred embodiment of Austin '125 is compared with the UV blocking property of the plastic material of Rohm and Haas (column 9, lines 2-5). Accordingly, the fact that all of the claims in the present application are limited to a plastic substrate or a substrate having a melting point lower than glass

is significant. In this regard, independent claims 43 and 47 have been amended to require a "plastic substrate" as part of the claimed structure. Further, claim 40 has been amended to require the specific method step of providing a plastic substrate. Accordingly, all claims in the present application are distinguishable from Austin '125 for this reason.

In the rejections of the present claims, the Examiner has taken the position that the first and third layers of the coating of Austin '125 could be silicon dioxide (SiO_2). This is not true. What Austin '125 does disclose is that in the preferred coating set forth in Table 2, it would be possible to substitute a layer of magnesium fluoride (MgF_2) for the outer layer of silicon oxide 52 of the structure 50 (see Figure 4-c and column 9, lines 14-19). There is no disclosure, however, in Austin '125 that the alternate embodiment of Table 3 or Table 4 could be modified by replacing the outer layer of magnesium fluoride with silicon dioxide. The alternate embodiment coatings of Tables 3 and 4 reflect layers of specific materials and specific thicknesses which are designed for use with magnesium fluoride as the outer layer. Put simply, there is absolutely no suggestion that in these alternate embodiments, silicon dioxide could replace the magnesium fluoride. Accordingly, all claims in the present application requiring the outer layer of the coating to be comprised of silicon dioxide is distinguishable from the disclosure of Austin '125.

Further, the alternate embodiment of Austin '125, which is described beginning in column 9, line 52, has specific characteristics, namely, it provides for lower reflectivity and a wider band width (column 9, lines 53-54). The disclosure goes on to state, however, that this embodiment of Austin '125 is not as amenable to deposition by "magnetron sputtering". See column 9, lines 54-56. Thus, all of the claims of the present application which require the layers

are distinguishable from Austin '125 and specifically the coatings in Tables 3 and 4 of Austin '125. This also reinforces the fact that silicon dioxide, cannot be substituted for, and is not intended to be substituted for, the magnesium fluoride in Tables 3 and 4.

Accordingly, independent claims 1 and 8 are distinguished from Austin '125 in that they are limited to a temperature sensitive substrate with a melting point lower than glass and require the deposition of the layers by sputtering. Independent claim 33 is distinguished in that it is limited to a temperature sensitive substrate having a melting point lower than glass and a first layer composed of silicon dioxide. Independent claim 40 is distinguished in that it is limited to providing an antireflection coating to a plastic substrate, that the various layers are applied by sputtering and that the first layer is composed substantially of silicon dioxide.

Independent claim 43 is distinguished in that it is limited to a plastic substrate, the first and third layers are comprised of silicon dioxide and the second layer has an optical thickness no greater than about one third of a wavelength at a wavelength of about 480 to 560 nanometers. In the embodiments of Tables 3 and 4 of Austin '125 the second layer has a significantly greater optical thickness of 0.84 and 1.04 wavelengths, respectively. Independent claim 47 is distinguished in that it comprises a plastic substrate, the first layer is composed substantially of silicon dioxide and the second and fourth layers are composed of materials which exclude zinc oxide. This clearly distinguishes from Austin '125 where the presence of zinc oxide is critical. Further, it would not have been obvious to substitute any other material for the zinc oxide of any of the embodiments of Austin '125 since the presence of zinc oxide is the essence of the invention of Austin '125 and its UV blocking characteristics.

For all of the above reasons, and particularly, in view of the amendments to the claims, the discussion of the Austin '125 reference and the distinctions between the claims and such reference, it is believed that all of the present claims are now in condition for allowance and such action is respectfully requested.

Please charge any fees for additional claims to the undersigned's Deposit Account No. 04-1420.

Reconsideration is respectfully requested.

Respectfully submitted,

Erik J. Bjornard, et al.

Date: March 16, 1999

By _____
David N. Fronek (Reg. No. 25,678)
Attorney for Applicant

DORSEY & WHITNEY LLP
Pillsbury Center South
220 South Sixth Street
Minneapolis, MN 55402
Telephone: (612) 340-2629